



CROSSED FLAGS

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About the Author

Bob Tuchrelo is the auto body and paint guru responsible for the outstanding body work done on Gene and Sue Manno's '67 silver coupe.

On May 11, 2002, Bob presented the chapter Technical Event during which time those in attendance saw him in action as he conducted a body work seminar in his garage. The subject of that was the work being done on Gene Manno's '57 Nomad.

Since that time Bob has written numerous columns for our newsletter. He is a true craftsman, has a wealth of information, and is willing to share the minutest details to help others achieve a measure of success in their projects. Thanks, Bob!

■ Applying Fiberglass Filler

by **Robert Tuchrelo**, *Nationally Recognized Auto Body Technician*

PART 1 — Quick Tips for getting fiberglass filler applications straight: Use hand tools!

We don't need an unlimited budget in electrical and air tool equipment. NOT AT ALL! Simple tools like four-inch firm (rubber) and soft (foam) sanding blocks work great. A ten-inch wooden handled sanding block (my personal favorite) for mid-size areas and the sixteen-inch for the larger jobs would suffice just fine. How about paint sticks? Not just any paint stick, but the ones you have to be dating the store owner's homely daughter / son to get your hands on. I'm talking about the solid rectangular ones; they're usually around eleven inches in length and at least three-sixteenths of an inch thick. This is a great tool; really they are (another personal favorite)! And for the wax on, wax off kind of application (multiple coats), there's the fiberglass rasp, commonly referred to as the "Cheese Grater". Oh yeah! And whatever sandpaper can wrap around-use it; a one of a kind sanding block is a beautiful thing. Remember, we're working with getting the fiberglass straight, nothing else.

Why no automatic tools? Boy I'm glad I asked me that! I didn't want to lose you before you even start. If you were an expert in the field, automatic tools would be fine. I can buy that. Reason being? You would already have a solid base, a good understanding on when and where and how long to use them. Meaning, there becomes a point in time when you put down your pneumatic or electrical device and finish off your repair by hand anyway, at least I hope you would. Without a lot of previous experience, this could defuse the whole purpose of your intent. Hand tools allow you to be more intimate with the surface and more in control of what you're taking back off, that is the applied fiberglass filler, which means you'll apply fewer coats for greater success. So, hand tools are truly as far as I am concerned the only way to go, hands down. No pun intended. Note, long term benefits may prove to be hazardous to the competition!

PART 2 — Where do we start?

Let's begin: OK, where do you start? Always remember this one thing, "Hi will fly, and low won't go". If you don't believe me, take a look at those new Ford Mustang doors, just below the relief. It's way too flat (no compound curve whatsoever). The

door looks like it got hit by an assembly worker. So then, where is the highest location on the panel you're trying to straighten? A great place to start if you're not sure is right in the middle of your applied fiberglass filler.

Try and have the area you're working in line with the midsection of your body. This is a neutral zone that allows you to use the sanding device (block) without applying any unwanted, additional force. Let your sandpaper do all the work, well almost. If you feel the need to increase your aggressiveness, first decrease your grit size (e.g., 80-grit to 40-grit), then go back up.

When you apply your filler, always start with a lay-up coat, kind of like tinning the surface for greater adhesion and pinhole reduction. If pinholes become a chronic problem for you, try supercharging your filler with finer polyester putties or resin additives mixed right in to the filler. Mix them together to form your very own consistency that works well with your application speed. Also, try kneading in your hardener instead of stirring.

Start sanding from the center out while the filler is still in a semisolid state. But not too semisolid, where you are actually peeling (loss of adhesion) the filler from your substrate. Sand in all directions until you can draw an imaginary line right through the middle of your application horizontally (your eye-viewing plane)! Then continue to work back and forth from this imaginary line holding one end of the sanding device on the imaginary line—swing the other end vertically, actually it's more diagonal, while moving on the x-plane (horizontally); never cross over the imaginary horizontal x-plane until you have reached the other side. Hint: This very important imaginary line should be in line with the crest of whatever plane you're presently working. Your results will blow you away! Speed at this time is a must; move as quickly as you physically can and never stop in the middle, but complete each path from start to finish every time.

When applying filler to a horizontal surface (i.e. something that you can't rotate, like a quarter panel fixed to a fuselage), cross your horizontal swipes with vertical swipes. Start from one side and work towards the other, lifting the ends of the applicator just enough so they won't gouge your application as you move across the surface. The benefits in doing this are really awesome! Remember the wave example, even though it would seem to make more sense to finish applying your filler in a horizontal direction, it allows you to ride on top of those high spots formed by the applicator. This allows for your horizontal x-plane to be perpendicular to your applied filler, which provides you with a perfect start to a straight finish.

PART 3 — *More Tips*

Applying fiberglass filler is a no-brainer, or is it? Yeah, mix it up and spread it on me baby! Actually, there is much to consider when applying FGF. For instance, never mix your FGF on just any surface. Some substrates may extract essential resins from the FGF. Any mixing surface which will absorb vital resins from your FGF is a "No-No!" If you're not already using a good mixing surface, try purchasing one of those inexpensive plastic mixing boards. They really do work quite well, despite the mysterious hole they possess - this surface defect can make life just wonderful.

I'll leave it up to your imagination on how to overcome this obstacle. Keeping precious resins in the FGF is a "key player" in pinhole reduction, along with maintaining product integrity. Absorb this point right into your brain, literally. Believe me when I tell you, I personally know how easy it is to find a clean sided cardboard box, and use it for a mixing board.

Don't overdo it on the hardener! This can be very scary. Excessive anything is simply excessive; not a good thing. More hardener means less applying time, which also means yes, more pinholes. Tip: Think "Blue" when it comes to cream-hardeners. Why, you ask? Blue cream-hardener has less chance of color staining your final piece of work...Too much hardener means too much heat. Too much heat means FGF becomes brittle, and if applied at an extreme thickness, the filler may crack prematurely. Color bleeding may occur. This is a good reason too familiarize yourself with a good catalyzed bleed through sealer (never forget about Mr. Murphy). Inconsistent hardener levels mean poor FGF layering characteristics. What I mean is one layer of FGF will sand easier than another layer. So if you have multiple layers of FGF and sand through the top-most level, you may be creating your very own Tidal Wave.

Always try and cap your pre-layers with one last finishing top layer, without breaking through, to avoid this very problem. Also, remember to blow off or vacuum each layer of FGF before applying your next layer; yes to decrease / eliminate pinholes. I also mentioned this once before, so I'll say it again. Always sand your previous layer of FGF with the 'grit' you intent to sand your next layer with. This is a major pinhole terminator. Enough for now on the pinhole thing.

Don't over-achieve on the initial sand prep. A mechanical surface scratch (i.e. using a 24 grit mechanical grinding wheel over the damaged surface to be repaired with FGF) is a little extreme. Once again, big time scratches produce big time pinholes, especially around the feathered areas of your FGF. Stop and read the can. These new micro sphere filling agents can stick to just about anything. An 80 grit scratch (mechanical) for both metal and Fiberglass is way sufficient. But if you're applying something with chopped fiberglass fibers in it, to a repair that may require a lot of filling, then a mechanical 24 grit scratch would do just fine.

It always amazes me how many words it takes to explain so little. Until we meet again, best of luck on your project!

— **Robert Tuchrelo**, *Nationally Recognized Auto Body Technician*